fragment generated by the *Kpn*I site at approximately 3900 to the *Kpn*I site at approximately 6100, and wherein said fragment is capable of hybridizing to the corresponding λJ19 restriction fragment under hybridization conditions of 20% formamide, 8X SSC, at 37°C, with washes in 2X SSC, 0.1%SDS, at 37°C.

REMARKS

Reconsideration of this application is respectfully requested. The amendment to the specification is supported on page 11, paragraph 3, from which it is evident that applicants refer to 8X SSC and 2X SSC.

Claims 32-38 have been amended. Support for the amendment can be found throughout the specification, for example on pages 11-13. No new matter is added by the amendment. Claims 28, 29, and 32-45 are pending in the application.

Claims 28, 29, and 32-38 are rejected under 35 U.S.C. § 112, first paragraph, because the specification allegedly does not reasonably enable the skilled artisan to make and/or use the invention commensurate in scope with the claims. The Examiner contends that the specification does not disclose, *ipsis verbis*, HIV/LAV viral clones or restriction fragments obtained from any other viral isolates, but that the claimed invention encompasses any HIV-1 DNA restriction fragment having the recited restriction sites. The Examiner relies up on the disclosures of Goodenow et al., Holland et al., and Gao et al., to demonstrate that HIV-1 exists as a complex group of variants. The Examiner concludes that each variant would have a unique nucleotide sequence and varying endonuclease profile.

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Applicants traverse the rejection. Applicants reiterate that the Examiner has improperly relied on the disclosures of Goodenow et al., Holland et al., and Gao et al. These references were published after applicants' effective filing date, and therefore, the later discoveries of unknown variations cannot render the claims non-enabled. See In re Hogan, 194 U.S.P.Q. 527, 537 (C.C.P.A. 1977).

The Examiner states "it is also acceptable to submit later dated references if they provide evidence as to what was known on or before the effective filing date of the application. Thus, if individuals skilled in the art state that a particular invention is not feasible after the filing date of the claimed invention, that would be sufficient evidence that the invention was not possible at the time of filing." However, the cited references do not demonstrate that the claimed invention **was not feasible** at the time of filing. The Examiner's general statement that HIV exists as a complex group of genotypic and phenotypic variants does not preclude enablement of applicant's invention, because the Examiner has not addressed the question of whether the claimed restriction fragments were feasible at the time of filing. Nowhere in the cited references do the authors address heterogeneity of the claimed restriction fragments. Applicants respectfully submit that the Examiner's conclusion that each variant would have a unique nucleotide sequence and varying endonuclease profile does not support the Examiner's conclusion that the claimed restriction fragments are not enabled, since the Examiner has not specifically considered the claimed restriction fragments.

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Furthermore, applicants submit that the skilled artisan would expect success in making and using the claimed invention, absent evidence to the contrary. As objective support of the expectation of success, applicants submit von Briesen et al., 1987 (Exhibit 1). In this reference, the authors generated restriction maps of HIV-1D31 clones (Figure 4). Also included are maps of HIV-1 BH5 and BH8. From analysis of the restriction maps, it is evident that BH5; BH8; D31,10.2; and D31,10.1 all have *Kpn*I sites at approximately 3500 and 3900. Furthermore, it is evident that BH5; BH8; D31,4.1; D31,8.1; and D31,2.1 all have a *Kpn*I site at approximately 6100. In addition, it is evident that BH5; BH8; D31,4.1; D31,8.1; and D31,2.1 all have a *Bgl*II site at approximately 9150. It is also evident that BH5; BH8; and D31,8.1 all have a *Bgl*II site at approximately 9150. Finally, it is evident that BH5 and BH8 have a *Bam*HI site at approximately 8150 and a BglII site at approximately 8750.

Applicants also submit Benn et al. and Saag et al. as objective support of the expectation of success (Exhibits 2 and 3). Figure 1 in Benn et al. and Figure 3 in Saag et al. disclose restriction maps of other HIV-1 strains. From analysis of the restriction maps, it is evident that the claimed restriction fragments could be obtained from other strains of HIV-1 by the skilled artisan. Therefore, applicants submit that the skilled artisan expects success in making and using the claimed restriction fragments, absent evidence to the contrary.

In addition, the specification teaches one skilled in the art detailed methods for making and using the claimed invention. The specification teaches that the invention relates to probes, which can be made using any DNA fragment according to the invention. (Specification at 12,

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paragraph 2.) The specification teaches that whole virus can be detected in culture supernatants of HIV-1 producing cells, and teaches a method for achieving detection using labeled probes. (Specification at 12, paragraph 3.) The specification further teaches that the probes of the invention can be used for screening of genomic DNA from the tissues of patients with HIV-1 related symptoms. (Specification at 12, paragraph 4.) The specification teaches a method for screening comprising extraction of DNA from tissues, restriction enzyme cleavage, electrophoresis, and Southern blotting. (Specification at 12-13, bridging paragraph.) One skilled in the art expects success in obtaining the claimed restriction enzyme fragments using these techniques, absent evidence to the contrary. Accordingly, applicants submit that the specification fully enables claims 28, 29, and 32-38, and respectfully request withdrawal of the rejection.

Claims 28, 29, and 32-38 are rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter, which applicants regard as the invention. The Examiner maintains that the recitation of "at approximately" precludes identification of the precise location of the restriction sites.

Applicants respectfully traverse this rejection. Applicants submit that the language of claims 28, 29, and 32-38 is as precise as the subject matter permits. As an example, the restriction maps of Figure 4 of von Briesen et al. (Exhibit 1) provide only approximations of the location of restriction sites. However, as von Briesen et al. illustrates, these approximations are sufficient for the skilled artisan to determine the conservation of these sites. Applicants submit that the claims, read in light of the specification reasonably apprise those skilled in the art of both

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the utilization and scope of the invention. According to M.P.E.P. § 2173.05(a), 35 U.S.C. § 112, second paragraph, demands no more.

In addition, applicants have amended claims 28, 29, and 32-38 to recite that the claimed fragments are capable of hybridizing to the corresponding λJ19 restriction fragments. Accordingly, applicants respectfully request withdrawal of the rejection.

Applicants submit that the foregoing remarks should overcome all outstanding rejections and place this application in condition for allowance.

To the extent any extension of time under 37 C.F.R. § 1.136 is required to obtain entry of this Amendment, such extension is hereby requested. If there are any fees due under 37 C.F.R. §§ 1.16 or 1.17 which are not enclosed, including any fees required for an extension of time under 37 C.F.R. § 1.136, please charge those fees to our Deposit Account No. 06-916.

Respectfully submitted,

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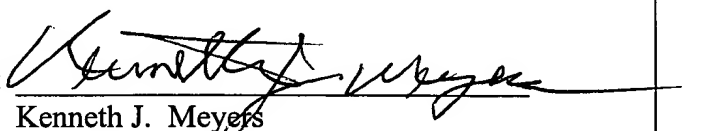
By: 
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